

**Abstract**

The normally on transistor comprises a source, a drain and a channel. The source, drain and channel materials are chosen such that, for a NMOS type transistor, the electronic affinity of the drain material is lower than the electronic affinity of the channel material and the electronic affinity of the source material is higher than the electronic affinity of the channel material. Moreover, the materials are selected such that, for a PMOS type transistor, the upper level of the valence band of the drain material is higher than the upper level of the valence band of the channel material and the upper level of the valence band of the source material is lower than the upper level of the valence band of the channel material.